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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,408	07/30/2001	G. Michael Morris	RPC-1US	4607

7590

09/10/2003

Maurice M. Klee, Ph.D.
Attorney at Law
1951 Burr Street
Fairfield, CT 06430

EXAMINER

MCPHERSON, JOHN A

ART UNIT

PAPER NUMBER

1756

DATE MAILED: 09/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,408

Applicant(s)

MORRIS ET AL.

Examiner

John A. McPherson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 82-86 and 91-95 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,18,19,29,30,32,33,35,49,50,60,63-71,73,74,76,77 and 87-90 is/are rejected.
- 7) ☒ Claim(s) 3,5-17,20-28,31,34,36-48,51-59,61,62,72,75 and 78-81 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 4, 18-19, 29-30, 32-33, 35, 49-50 and 60 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,285,503 to Chao et al. (Chao). Chao discloses a method for the preparation of holographic diffusers whereby the holographic diffuser is designed through iterative calculations, wherein some constraint conditions that can change the magnitude of the light passing through the diffuser are used to design the diffuser. See the abstract.

As exemplified, the diffusers comprises an array of 32 x 32 units of micro areas, each with a size of 1 x 1 μm . The micro areas must inherently be positioned with an accuracy of better than 1 μm , or else they would completely overlap with the adjacent unit(s) and not form the disclosed 32 x 32 array. Furthermore, the diffuser is exemplified for use at wavelengths of 0.565 μm and 0.650 μm . See column 2, lines 27-38 and column 4, lines 37-44. Accordingly, the micro areas are positioned well within

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$10 \times \lambda$. (i.e. $10 \times 0.565 \mu\text{m} = 5.65 \mu\text{m}$, and as discussed above the micro areas must inherently be positioned with an accuracy of better than $1 \mu\text{m}$).

2. Claims 63-65 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,689,291 to Popovic et al. [reference 50 of the Information Disclosure Statement (IDS) filed 3/6/02] (Popovic). Popovic discloses a pedestal-type microlens comprising a sharp edged cylindrical pedestal portion and a curved microlens portions. See that abstract and Figures 2A-D.

3. Claims 66-67 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 5-053174 [reference 53 of the IDS filed 3/6/02] (JP '174). JP '174 discloses a focusing screen comprising a microlenses having an aspherical shape. See the abstract. As set forth in the specification on page 21, line 15 to page 22, line 5, equation (4) describes a spherical microlens for the case where κ is 0 and A_p is 0 for all p . Claim 66 sets forth the same equation, with the limitation that at least one of κ and A_p for all p are not 0, therefore the claimed microlenses are anything but spherical (i.e. they are aspherical). Therefore, the microlenses of JP '174 are within the scope of the microstructures described by the equation of claim 66 of the present invention.

4. Claims 68-69 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,442,482 to Johnson et al. [reference 52 of the IDS filed 3/6/02] (Johnson). Johnson discloses a microlenses screen comprising an array of microlenses, wherein

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the microlenses are elongated in a preferred direction transverse to the lens axis (i.e. have non-equal curvatures along x and y). See the abstract; column 9, line 67 to column 10, line 34. Therefore, the microlenses of Johnson are within the scope of the microstructures described by the equations of claims 68 and 69 of the present invention.

5. Claims 70-71, 73-74 and 76 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,119,235 to Umeda et al. [reference 51 of the IDS filed 3/6/02] (Umeda). Umeda discloses a focusing screen composed of a multitude of microlens-like curved surfaces that are arranged two-dimensionally in a plane, wherein the microlenses exhibit an appropriate degree of randomness in terms of height, or both height and two-dimensional arrangement. See the abstract; column 3, lines 60-65; and column 6, lines 35-39.

6. Claim 77 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,767,186 to Bradley, Jr. et al. [reference 19 of the IDS filed 12/26/01] (Bradly, Jr.). Bradly, Jr. discloses a projection screen with a vertically oriented lenticular array, wherein each lenticule has a height-to base width ratio of from 1:2 to 6:1 (i.e. a ratio or greater than 1:1 corresponds to the microstructures of the presently claimed invention). See the abstract and column 3, lines 14-17.

7. Claims 87-88 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0 311 189 [reference 54 of the IDS filed 3/6/02] (EP '189). EP '189 discloses a front

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projection screen comprising a Fresnel structure having microlens structures arranged on the facets of the Fresnel structure. See the abstract and column 5, lines 31-49.

8. Claims 89-90 are rejected under 35 U.S.C. 102(b) as being anticipated by JP '54-083846 [reference 63 of the IDS filed 3/6/02] (JP '846). JP '846 discloses a diffusing plate comprising features etched into a substrate through a mask (see the abstract), wherein in one embodiment the mask patterns define irregularly shaped polygons (see Figure 14, and based on an oral translation obtained by the Examiner of the paragraph bridging the lower columns on page 3).

Allowable Subject Matter

9. Claims 82-86 and 91-95 are allowed.

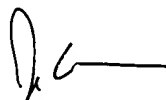
10. Claims 3, 5-17, 20-28, 31, 34, 36-48, 51-59, 61, 62, 72, 75 and 78-81 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. McPherson whose telephone number is (703) 308-2302. The examiner can normally be reached on Monday through Friday, 7:30 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



John A. McPherson
Primary Examiner
Art Unit 1756

JAM
9/5/03